

**A new species of *Fuchsina* Fall with
notes on some California Lathridiidae**
(Coleoptera)

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In his revision of North American Lathridiidae, Fall (1899) described *Fuchsina occulta* from the coastal region of California. He characterized this monotypic genus as “. . . the most extraordinary of North American Corticariini” because of the 10-segmented antennae, lack of eyes and differences in elytral and scutellar sculpture. He described *Revelieria californica* in the same paper.

The Lathridiidae are known to feed on fungi in both larval and adult stages (Hinton, 1941; Hammad, 1953). Some species are arboreal while others are associated with moldy stored products, but most are found in plant litter. Investigations of the litter fauna have largely been in areas where there is a rich humus buildup. Along the Pacific Coast this includes the Coastal Ranges, Transverse Ranges and west side of the Sierra Nevada. The east side of the Sierra Nevada and the basin ranges immediately to the east are in rain-shadow and plant litter and humus are greatly reduced. Historically there has been little investigation of the soil fauna in this area. Recent sampling of the dry sparse litter in this area using Berlese funnels has shown the Lathridiidae to be abundant and widespread. Several new species have been discovered, one of which will be treated in this paper.

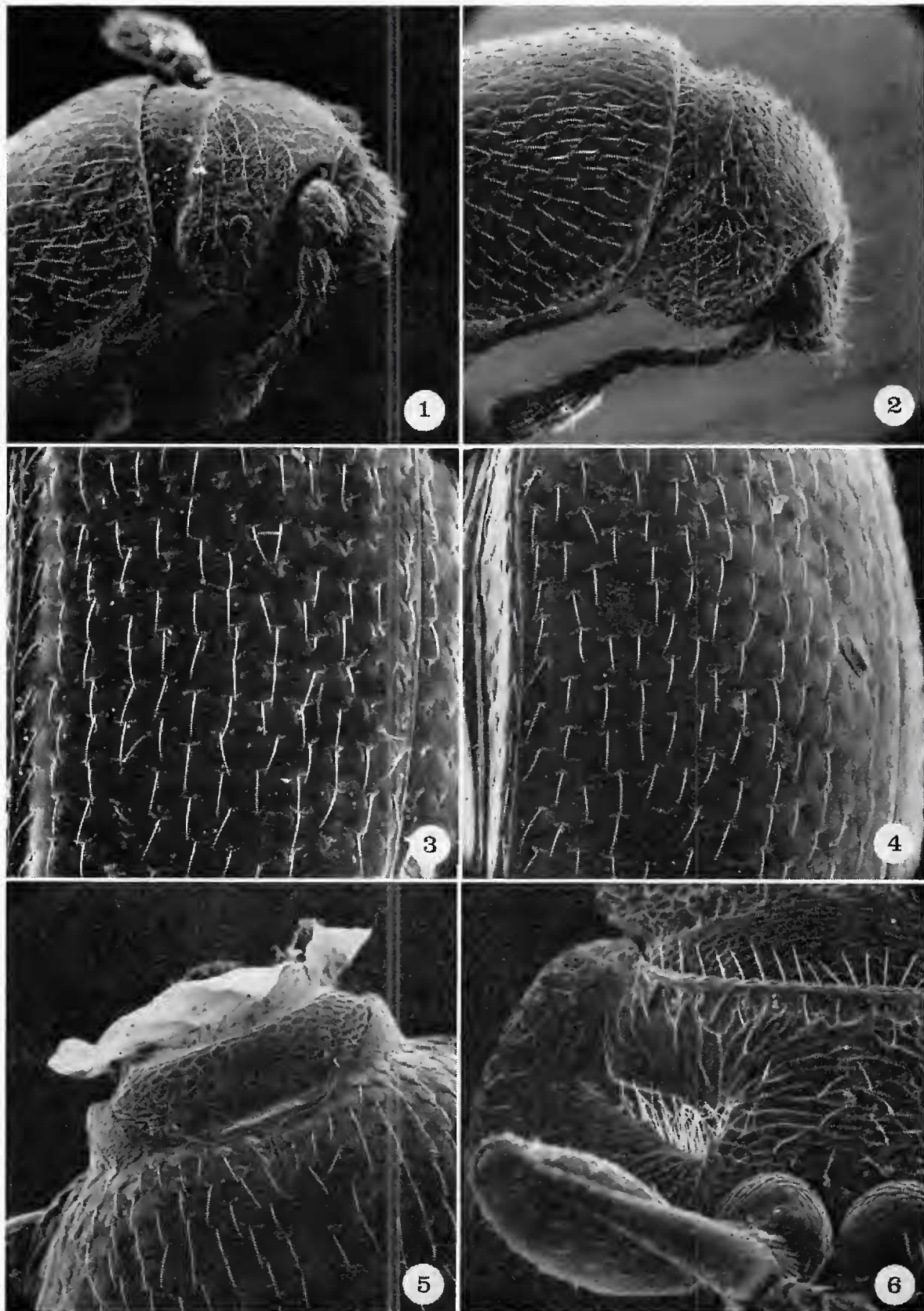
This interesting but perplexing new desert inhabitant is a second species in the genus *Fuchsina*. Inclusion of this species in *Fuchsina* necessitates a slight redefinition of the genus. The following diagnosis will suffice to separate *Fuchsina* from all other Corticariini.

FUCHSINA FALL

Small, reddish brown, parallel sided. Antennae 10- or 11-segmented with 3-segmented club. Eyes absent or reduced to a single facet. Prosternal fovea present. Scutellum transverse, without ridges or carinae, obtusely pointed posteriorly. Female with 5 abdominal sternites, male with a sixth present, shortened.

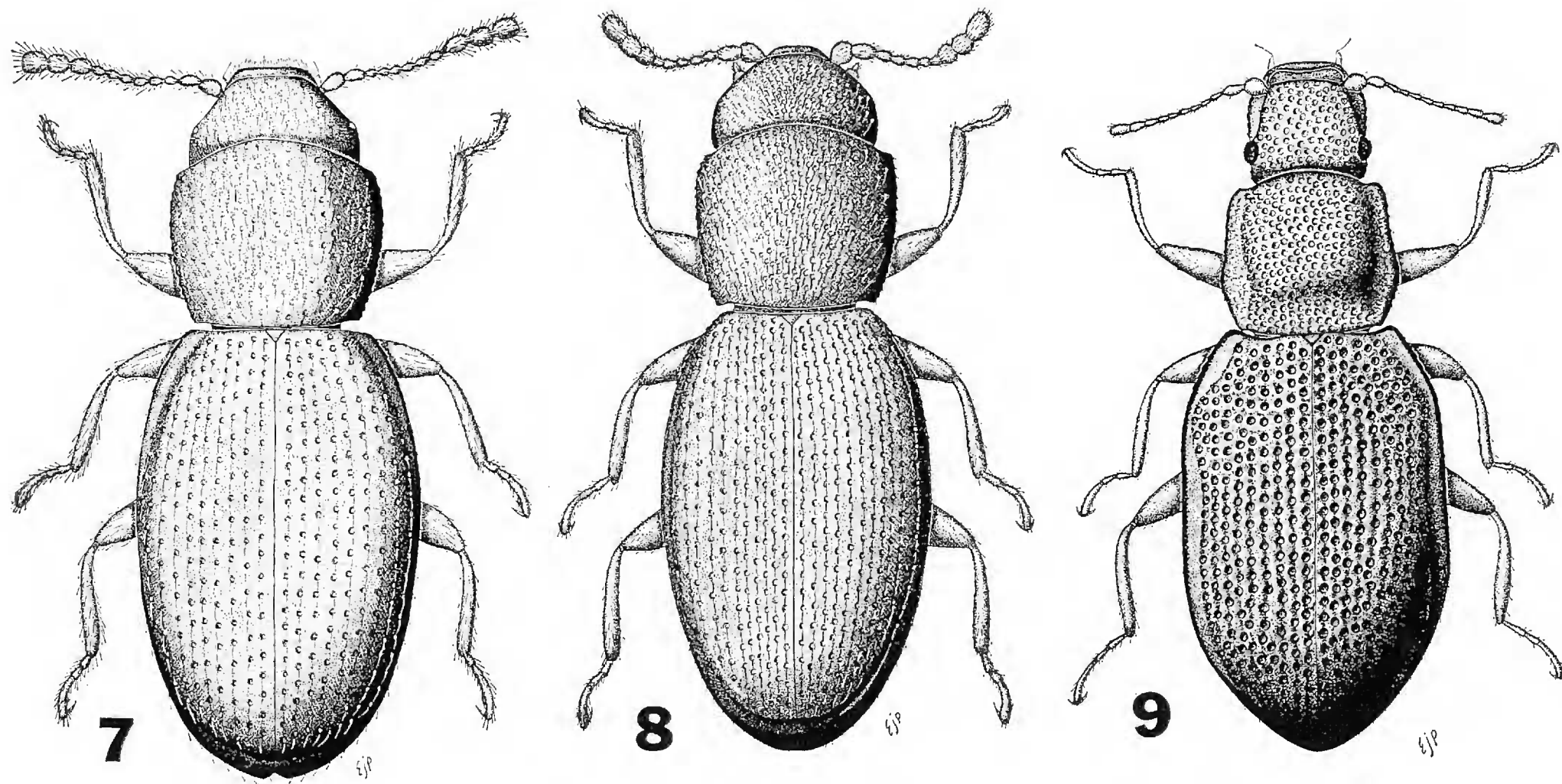
***Fuchsina arida*, new species**
(Fig. 7)

Length, 1.2–1.4 mm. Width, 0.4–0.5 mm. Body elongate oval, convex, setiferous. Cuticle shining, reddish brown. Head, thorax, scutellum and abdominal sternites



FIGS. 1-6. *Fuchsina* spp.: 1) *arida*, head, single eye facet; 2) *occulta*, head, eyeless; 3) *occulta*, elytral setation; 4) *arida*, elytral setation; 5) *arida*, scutellum; 6) *occulta*, precoxal fovea.

with reticulate microsculpture. Head transverse; tempora parallel-sided; frons anterior to eyes sharply tapering to a blunt point; clypeus trapezoidal, expanded anteriorly. Labrum trapezoidal, somewhat surrounding anterior clypeal margin. Antennae 11-segmented; 1st globose, 2nd ovoid, 3rd-8th of equal width, shortening



FIGS. 7-9. Habitus: 7) *Fuchsina arida* new species; 8) *Fuchsina occulta* Fall; 9) *Revelieria californica* Fall.

apically until transverse; club segments expanding, 9th oval, 10th transverse, 11th with width one and one-half times length. Eye a single facet (Fig. 1). Pronotum quadrate (width to length ratio 23:20); margin subdenticulate; punctation uniform, punctures separated by twice their diameter, fovea anterio-lateral to procoxae (Fig. 6). Coxae conical, intercoxal process $\frac{1}{4}$ diameter of coxa, closed behind. Scutellum wider than long, ellipsoidal, microreticulate (Fig. 5). Elytra gently inflated, smooth. Elytral setae in 14 or 15 confused rows, (Fig. 4) each emerging from bilobed plaque. No elytral punctures. Tarsi with last 2 segments of equal length. Aedeagus symmetrical.

Holotype. (Calif. Acad. Sci. No. 12394) Westgard Pass, Inyo Co., Calif., XI-1972, berlese pinyon duff. D. Giuliani. Paratypes 2 same data, 12 same locality except XII-72 and from juniper duff, 6 same locality except XII-72 and pinyon duff.

Additional specimens. CALIFORNIA. Inyo Co.: Coyote Cr., 7 mi. SW Bishop, 7500', IX-1972, D. Giuliani, pinyon duff [CDFA] (2); Fall Cr., 5200', IX-1972, D. Giuliani, golden oak duff [CDFA] (13); Grandview Camp, White Mts., 28-VIII-1965, O. Clarke, *Juniperus occidentalis* duff, [CDFA] (17); Onion Valley nr. Kearsarge Pass, 8-VIII-1964, O. Clarke, mixed leaf litter [CDFA] (1); Waucoba Spring, 30-IV-1975, F. G. Andrews, A. R. Hardy, *Pinus monophylla* litter [CDFA] (4); White Mts., 28-VII-1965, O. Clarke, *Populus trichocarpa* duff [CDFA] (1). Modoc Co.: Benton Meadow, 12-VII-1974, soil [CISC] (11); Fandango Pass, 4-VII-1974, soil [CISC] (2); Long Valley, 1-VII-1974 and 18-VII-1974, soil [CISC] (2); Shields Creek, 26-VI-1974 and 5-VII-1974, soil and litter [CISC] (4); Snell Spring, 26-VI-1974, 1-VII-1974, 2-VII-1974, soil [CISC] (11); So. Deep Creek, 28-VI-1974 and 16-VII-1974, soil [CISC] (16). Riverside Co.: Whitewater Canyon, 15-II-1959, I. M. Newell, creosote bush duff [CDFA] (11). San Bernardino Co.: 1 mi. NE Arrowbear, 6400', 14-III-1964, E. L. Sleeper, pine-oak duff [CDFA] (30); Joshua Tree Nat'l Monument, Fried Liver Wash, 4-II-1967, Pinyon Wells, 14-V-1966 and 4-III-1967, Pleasant Valley, 7-I-1967, .7 mi. S Squaw Tank, 11-XII-1965, E. L. Sleeper and S. L. Jenkins [LBSC] (5); New York Mts., Bathtub Springs, 25-IV-1971, J. D. Pinto, leaf litter [CDFA] (1). San Diego Co.: Borrego, Palm Canyon, 25-IV-1955, R. O. Schuster [CISC] (2). NEVADA. Mineral Co.: 2 mi. W Mina, 6700', III-1973, D. Giuliani, pinyon duff [CDFA] (3); Montgomery Pass, XII-1972, D. Giuliani, pinyon duff [CDFA] (4). OREGON. Klamath Co.: Bly Mt., 19-III-1959, J. Schuh, yellow pine duff [JSCC] (1).

REMARKS: *Fuchsina arida* differs from *F. occulta* in having eleven-segmented antennae; it resembles *occulta* in having (1) elytra without striae or punctures, (2) large number of rows of setae (12 in *occulta*, 15 in *arida*) in somewhat confused lines, (3) scutellum without carina or fovea, exposed portion subtriangular, (4) eye reduced (absent in *occulta*, a single facet in *arida*) and (5) abdominal sternites numbering 5 in females, 6 in males. The naming of a new genus for *arida* based upon the difference in antennal segment number (*Fuchsina occulta* is the only known North American Corticariini to have other than an 11-segmented antenna), or placing it in another existing Corticariini genus

TABLE 1. Morphological characters of the various genera of Corticariini in North America.

Genus:	<i>Fuchsina</i>	<i>Corticaria</i>	<i>Corticarina</i>	<i>Melanophthalma</i>	<i>Cortilena</i>
No. of segments in antennae & antennal club	10-11/3	11/3	11/3	11/3	11/2
Posternal fovea	present	present	absent	absent	absent
Abdominal sternites	♀ 5 ♂ 6	5	6	6	6
Elytral setation	12-14 confused rows, impunctate	8 rows punctate striae	8 rows punctate striae	8 rows punctate striae	8 rows punctate striae
Coxal lines first abdominal sternite	absent	absent	absent	present	present
Relative length tarsal segments 2 & 3	1=2	1>2	1>2	1 = 2	1=2
Shape of scutellum	triangular without carina or ridges	truncate carinate or ridged	truncate carinate or ridged	truncate carinate or ridged	truncate carinate or ridged
First tarsal segment of male	smooth	smooth	smooth	spinal projection	smooth
♂ genitalia	symmetric	symmetric	asymmetric	symmetric	symmetric

was thought unwarranted because of overall similarity to *occulta* and lack of similarity to other genera.

Table 1 depicts those characters historically used (Belon, 1897; Fall, 1899; Von Peez, 1967; Dejoz, 1970) to separate the various Corticariini genera. It can be seen that *Fuchsina* as constituted by both *occulta* and *arida* shows little overall similarity to any other North American genus with the possible exception of *Corticaria* where a few characters are shared.

FUCHSINA OCCULTA FALL

(Fig. 8)

In Mr. Fall's original description of *F. occulta* he listed Los Angeles, Los Gatos and Mill Valley as localities of collection and sifting litter at the base of redwoods as the only host data. A number of new distributional records are known (Fig. 9). In addition to the coast range collec-

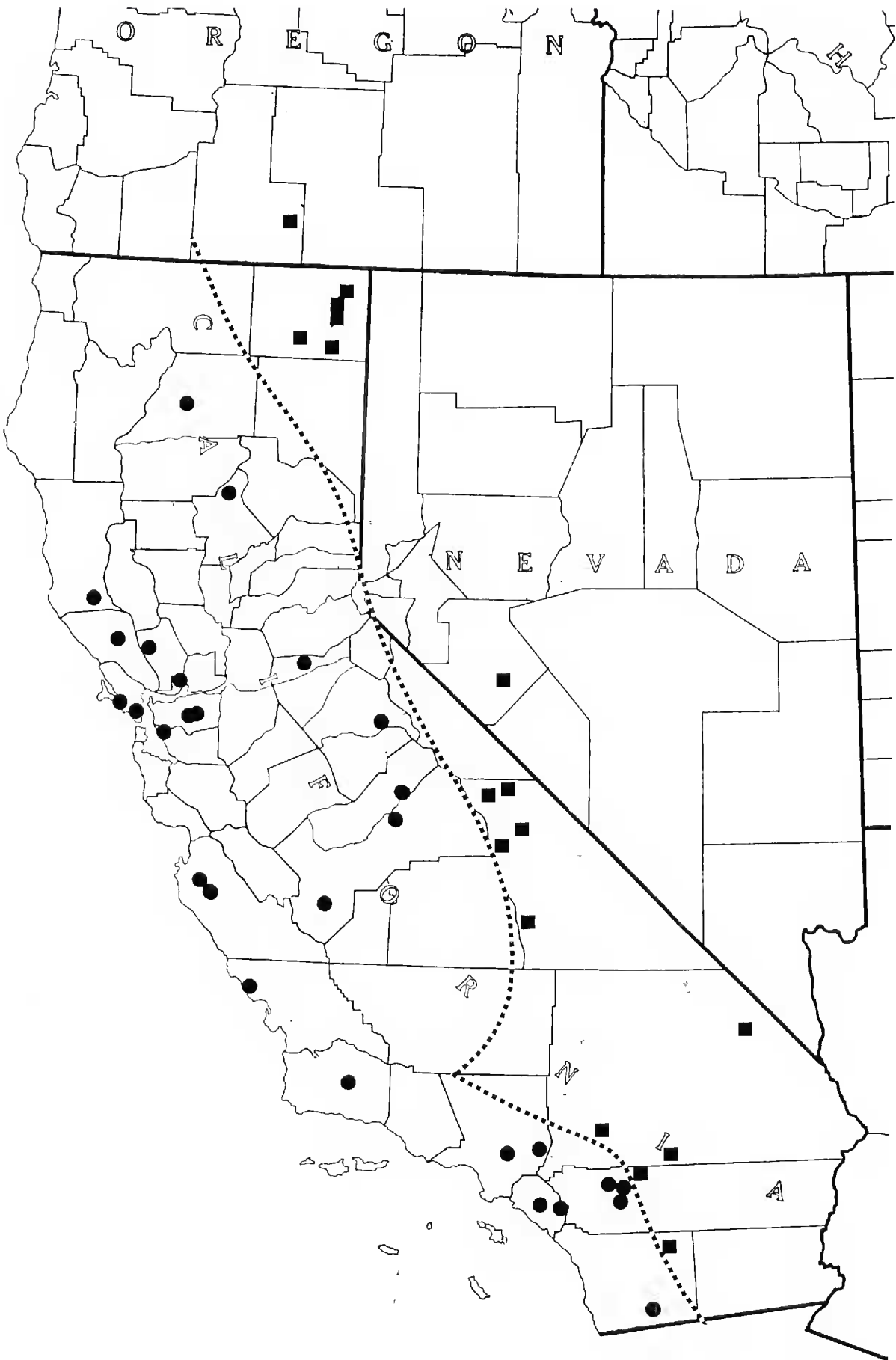


FIG. 10. Known geographical distribution of *Fuchsia arida* and *F. occulta*. Dotted line depicts mountain crests with desert climate to east.

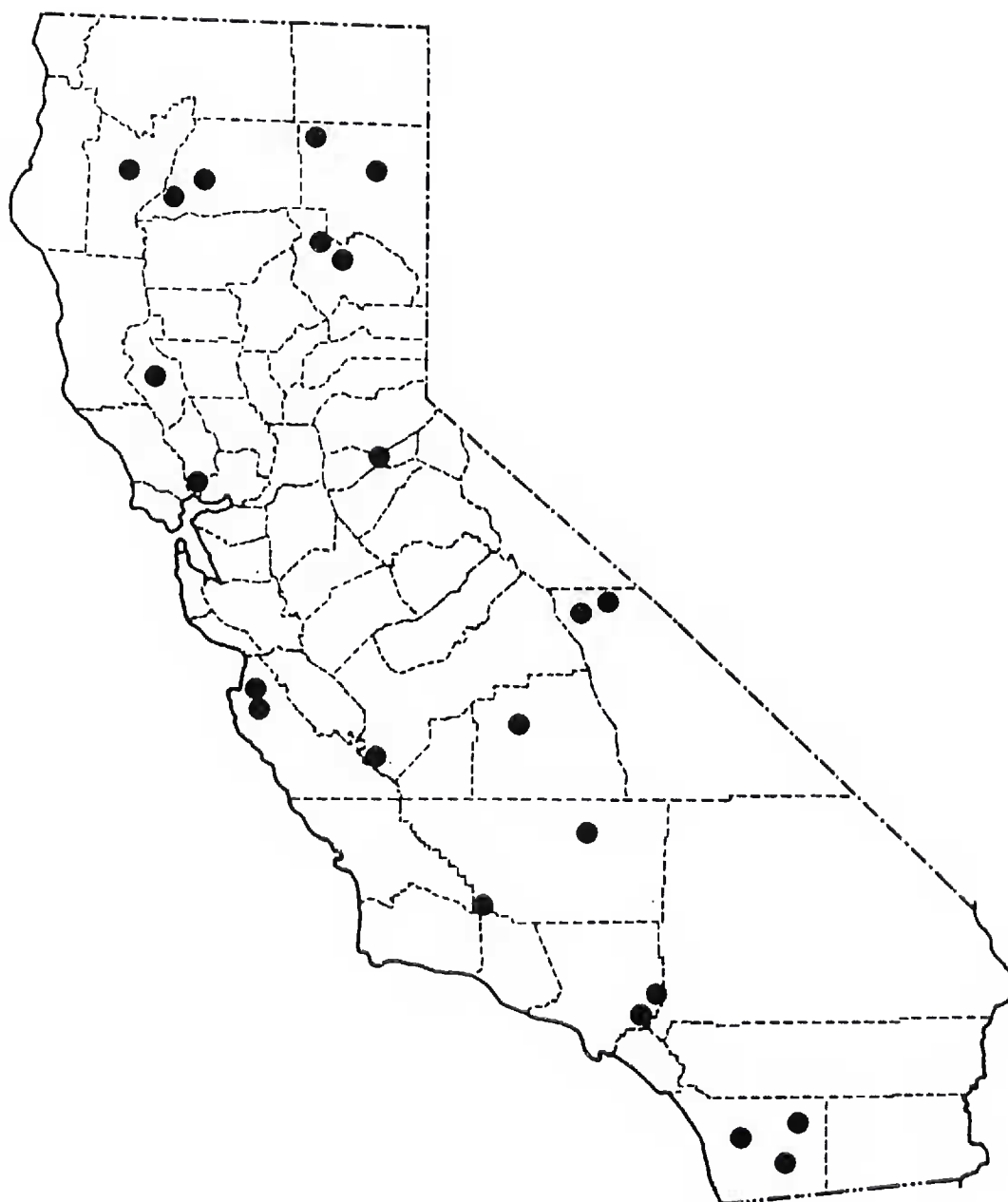


FIG. 11. Known geographical distribution of *Revelieria californica* Fall.

tion, it can be seen that it is also found on the west side of the Sierra Nevada range and in the southern part of the Klamath Range. Host data show records from Engelmann oak, Black oak, several undetermined oak species, *Pinus ponderosa*, *Heteromeles arbutifolia*, *Arctostaphylos* and from the nest of the wood rat *Neotoma fuscipes*.

The pattern of distribution for *F. arida* and *F. occulta* show allopatry with all known records of *occulta* being from the west side of the Sierra Nevada and transverse ranges, while all records for *arida* are from the east side of the Sierra Nevada and transverse ranges (Fig. 10). In San Bernardino and Riverside Counties the two species are found within 8–10 miles of one another, but always on opposite sides of the mountains.

REVELIERIA CALIFORNICA FALL

(Fig. 9)

This easily recognizable and distinct species was also described by Fall in 1899. He included it in *Revelieria* along with *R. genei* of Southern Europe and Northern Africa. It was then known from two Basidiomycetes (*Pleurotus* and an unidentified polypore) and at Los Gatos and Ojai, California, both coastal locations.

Subsequent collection, mainly by berlese sampling, has shown it to be widespread in California, occurring in the lower elevations of the Coast Ranges, Transverse Ranges, Klamath Mountains, southern end of the Cascades and on both the east and west sides of the Sierra Nevada (Fig. 11). It has not yet been found outside of California, but it seems likely to be found in the Basin Ranges of Nevada and in Southern Oregon. I have collected it in association with Myxomycete fructifications on several occasions. It was found in El Dorado Co. on the under surface of *Fuligo septica* in association with *Odontosphindus clavicornis* Casey (Sphindidae), and has been taken three times at Yuba Pass, Sierra Co. on *Arcyria versicolor* Phill. On two occasions adult specimens were collected. The third collection was 3 × 4 inch patch of sporangia infested with Lathridiid larvae. Rearing yielded several hundred *Enicmus cordatus* Belon adults and only three *Revelieria californica* adults. *Revelieria* larvae were not isolated and studied, but dissection of the adult gut yielded typical *Arcyria versicolor* spores. It has not been recollected in association with higher fungi, but has been berlesed from the litter of *Heteromeles arbutifolia*, *Juniperus* sp., *Pinus monophylla*, *Pinus sabiana* and *Quercus* sp. It has not been found to be locally abundant; rarely does a one-half square yard sample contain more than a single specimen and has never contained more than three specimens.

ACKNOWLEDGMENTS

I am indebted to the following individuals for help in obtaining litter samples: R. F. Wilkey, formerly of the California Department of Agriculture; A. J. Gilbert, T. R. Haig, A. R. Hardy, R. Hobza, E. L. Paddock and R. E. Somerby of the California Department of Food and Agriculture; J. T. Doyen and J. D. Pinto of the University of California, Berkeley and Riverside respectively; and to D. Giuliani of Lone Pine, California.

The following institutions and individuals made specimens available for study: H. B. Leech, California Academy of Sciences; J. Chemsak,

California Insect Survey, University of California, Berkeley; Saul Frommer, University of California, Riverside; E. L. Sleeper, Long Beach State University and J. Schuh, Klamath Falls, Oregon.

Ms. E. Parker prepared the habitus illustrations and the photomicrographs were produced on the auto-scan at the University of California, Davis, with the assistance of Mr. R. O. Schuster.

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SCIENTIFIC NOTE

Distribution and ecology of *Leistus ferruginosus* Mannerheim (Coleoptera: Carabidae).—*Leistus ferruginosus* is the only widespread American *Leistus*. Its range as given by Erwin includes portions of Alaska, British Columbia, Washington, Oregon, and possibly California. There is one record from western Alberta. Most published records are coastal; the following inland localities may be isolated, relict populations: Jasper, Alberta; Mt. Revelstoke, British Columbia; and Mt. Bonaparte, Okanagon Co., Washington. The following new record extends the known range to western Montana: MONTANA: Ravalli Co., 5 miles SW Florence 3700', June 27, 1967, Loren Russell collector. The single specimen is in the University of Washington collection. This locality is approximately 350 miles southeast of both Mt. Revelstoke and Mt. Bonaparte.

All of the Oregon localities given by Erwin (1970. *Pan-Pac. Entomol.*, 46: 111-119) are located west of the Willamette Valley, with five of the six strictly coastal. The following record establishes the presence of *L. ferruginosus* in the Oregon Cascade Range: OREGON: Marion Co., Silver Creek Falls State Park, June 26, 1972, Loren Russell collector.

Erwin (loc cit) saw specimens collected between May and August, with one teneral specimen taken in June suggesting adult hibernation. I have found this species active between April 4 (Seattle, Wash.) and September 20 (Whatcom